

## AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (currently amended) A method for performing pressure, ~~respectively pressure profile, measurements in a mammals by means of at the~~ pressure profile sensors technique, which comprises
  - a) introducing into the mammal a catheter lumen having at least a portion of its wall which is sufficiently flexible to be deflected by external pressure;
  - b) introducing progressively into the catheter lumen an electrically conductive liquid substance while applying simultaneously to it alternative current and mechanical oscillations;
  - c) detecting by means of an electrode placed at an the external surface of the subject mammal the a leakage current induced by the liquid substance traveling through the catheter;
  - d) transferring the leakage current thus recorded to a converter suitable to convert the leakage current ~~parameters~~ provided thereto into corresponding pressure values; and
  - e) displaying the pressure values as such, or as a function of at the measurement location or measurement period or both, to afford corresponding pressure profiles.
2. (currently amended) ~~Method~~ The method of claim 1, wherein the alternative current is a low voltage and / high frequency current and wherein the mechanical oscillations have controlled amplitude and frequency.
3. (currently amended) The method ~~Method~~ according to claim 1, wherein the catheter is made of innocuous polymer plastic material, ~~preferably of non-conductive~~ ~~innocuous polymer plastic material~~.

4. (currently amended) The method~~Method~~ according to claim 1, wherein the catheter is a single lumen or a multi-lumen catheter.
5. (currently amended) The method~~Method~~ according to claim 1, wherein the electrically conductive liquid substance is an aqueous liquid, ~~preferably a saline solution~~.
6. (currently amended) The method~~Method~~ according to claim 1, wherein the electrically conductive liquid substance is progressing step-by-step through the catheter lumen.
7. (currently amended) The method~~Method~~ according to claim 1, wherein the alternative current voltage applied to the electrically conductive liquid substance is comprised between about 500 mV and about 6 V, ~~preferably between about 1 and about 4 V~~.
8. (currently amended) The method~~Method~~ according to claim 1, wherein the alternative current frequency applied to the electrically conductive liquid substance is comprised between about 60 and 130 kHz, ~~preferably between about 80 and 120 kHz~~.
9. (currently amended) The method~~Method~~ according to claim 1, wherein the mechanical oscillations applied to the electrically conductive liquid substance ~~have a maximum amplitude of about 4 mm and a maximum frequency of about 15 Hz have an amplitude of about max. 4 mm and a frequency of about max 15 Hz, preferably of about 2mm, respectively about 10 Hz~~.
10. (currently amended) Use of the method according to claim 1 for ~~performing~~Performing pressure, ~~respectively~~ pressure profile measurements in mammal body tracts or cavities such as lung, esophagus, stomach, intestine, urinary tract or bladder, or blood vessels using the method of claim 1.
11. (currently amended) Use of the method according to claim 1 for ~~performing~~Performing real time pressure, ~~respectively~~ pressure profile measurements using the method of claim 1.

12. (currently amended) ~~Use of the method of claim 1 for performing~~ Performing ex-temporaneum pressure, ~~respectively pressure profiles measurements using the method of claim 1~~ by recording the pressure values provided by the converter and by displaying them at a time different from that of the leakage current recording.

13. (currently amended) An apparatus for performing the method of claim 1, which comprises

a source of an electrically conductive liquid substance connected to an alternative current source;

peristaltic pumping means fitted directly to the source of liquid substance;

mechanical oscillation means connected downwards to peristaltic pumping means;

an electrode capable of being placed at the external surface of the subject mammal for recording and then transferring a the detected leakage current to a the converter;

a converter suitable for deriving pressure values from the leakage current parameters which have been transferred thereto; and

means suitable to display pressure values as such, or as a function of the measurement location or measurement period or both.

14. (new) Method according to claim 9, wherein the mechanical oscillations applied to the electrically conductive liquid substance have an amplitude of about 2 mm and a frequency of about 10 Hz .

15. (new) The method according to claim 3, wherein the catheter is made of non-conductive innocuous polymer plastic material.

16. (new) The method according to claim 5, wherein the electrically conductive liquid substance is a saline solution.

17. (new) The method according claim 7, wherein the alternative current voltage applied to the electrically conductive liquid substance is between about 1 and about 4 V.

18. (new) The method according to claim 8, wherein the alternative current frequency applied to the electrically conductive liquid substance is between about 80 and 120 kHz.

19. (new) Performing pressure profile measurements in mammal body tracts or cavities comprising a lung, esophagus, stomach, intestine, urinary tract or bladder, or blood vessels, using the method of claim 10.

20. (new) Performing ex-temporaneum pressure profile measurements using the method of claim 12 by recording the pressure values provided by the converter and by displaying them at a time different from that of the leakage current recording.